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## COMMONWEALTH OF MASSACHUSETTS EXECUTIVE OFFICE OF ENERGY & ENVIRONMENTAL AFFAIRS DEPARTMENT OF ENVIRONMENTAL PROTECTION NORTHEAST REGIONAL OFFICE

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IAN A. BOWLES Secretary

LAURIE BURT Commissioner

CERTIFIED MAIL

July 24, 2009

Richard A. Nylen, Esq. Lynch DeSimone & Nylen, LLP 12 Post Office Square Boston, Massachusetts 02109

Re: NE

NEWBURYPORT - Solid Wastes/COR

Crow Lane Landfill

Crow Lane

Superior Court Civil Action No. 06-0790 C

Final Judgment

Paragraph 12.a. – Geotechnical Report

Approval

FMF No. 39545

## Dear Attorney Nylen:

The Massachusetts Department of Environmental Protection, Northeast Regional Office, Bureau of Waste Prevention, Solid Waste Section ("MassDEP") has reviewed the document titled: "Report on Additional Geotechnical Field and Laboratory Investigations, Crow Lane Landfill, Newburyport, Massachusetts" (the "Geotechnical Report") for the Crow Lane Landfill in Newburyport, Massachusetts. The Report was submitted to MassDEP and the Attorney General's Office pursuant to paragraph 12.a.(iii) of the final judgment entered in Suffolk Superior Court, Civil Action No. 06-0790 C, on April 30, 2009 (the "Order") for the Crow Lane Landfill in Newburyport, Massachusetts.

The Geotechnical Report, dated June 16, 2009, was prepared and submitted to the MassDEP on behalf of your client, New Ventures LLC ("New Ventures"), by GEOCOMP Corporation ("GEOCOMP") of Boxborough, Massachusetts. The Geotechnical Report presents the geotechnical data collected during the geotechnical investigation conducted pursuant to paragraph 12.a.(i) of the Order.

GEOCOMP concludes in the Geotechnical Report that the currently proposed berm design incorporated in the Order is appropriate provided that the organic zone encountered within the northwest portion of the existing earthen berm is removed or stabilized in-situ; and that relatively thin, loamy and organic soils encountered on the surface at the toe of the existing earthen berm in the berm extension/buttress areas are removed prior to placement of the compacted granular fill, as required by the existing construction plans. In addition, GEOCOMP concludes that the berm is expected to experience some settlement due to consolidation of the silt/clay stratum under the weight of the future MSE berm and that modifications will be made to the surface drainage features along the top of the berm to accommodate future settlement. The Geotechnical Report finds that, at a minimum, a revision of the design is needed to address the organic material found within the northwest portion of the earthen berm.

The unexpected presence of the thick silt and clay stratum raised issues of constructability not only in the section AA analyzed in the Geotechnical Report, but also in other areas, including the stone buttresses at the base of the berm. The clay and silt stratum also raised issues regarding the post construction effects of settlement on the MSE wall's stability as indicated in the Geotechnical Report.

On July 9, 2009, New Ventures' geotechnical consultants and counsel met with representatives of the Attorney General's Office, MassDEP, and MassDEP's geotechnical consultant, Mr. Benjamin Siebecker of Shaw Environmental, Inc. ("Shaw") of Salem, New Hampshire. The purpose of this meeting was to discuss the Geotechnical Report. MassDEP's and New Ventures' technical consultants agreed that the assumptions have changed from earlier geotechnical reports due to the thick silt and clay stratum encountered on the west and northwest side of the Landfill and the organic material found within the northwest portion of the existing earthen berm.

Pursuant to paragraph 12.(iii) and (v) of the Order, MassDEP approves the Geotechnical Report and concurs that a modification of the MSE berm is required. Therefore, pursuant to paragraph 12(v) of the Order, New Ventures shall submit for MassDEP approval a modified MSE berm design (the "Modified Design") that is a full design for the entire MSE berm supported by a complete geotechnical analysis that fully addresses all relevant physical conditions at the site and that includes all modifications to the corrective action design including the berm that are necessary as a result of the geotechnical analysis. This requires that the 2007 geotechnical evaluations be reevaluated, taking into account the clay and silt stratum, as well as the organic material, as part of the necessary revisions to the existing corrective action design to be submitted for MassDEP approval in the Modified Design.

Therefore, as discussed at the July 9, 2009 meeting, the Modified Design shall, in addition to addressing the organic material encountered in the northwest portion of the earthen berm, include a complete geotechnical analysis of the Modified Design that, without limitation:

1. Provides complete justification and references for the assumptions and conclusions regarding silt and clay stratum strengths.

- 2. Documents GEOCOMP's position that there will be a strength gain of the clay with loading and time.
- 3. Addresses the prospect of settlement associated with the area of wood chips, the MSE wall to the northwest, and the clay stratum.
- 4. Provides QA/QC procedures or other documentation that the boulders will meet the design specifications for the boulder wall.
- 5. Includes additional stability sections that reflect the critical worse case conditions for the various berm construction components. All sections shall reflect the current topography and true steepness of the slope above the existing berm. If the berm height has increased since the date of the last topographic survey, the entire slope shall be resurveyed for the new slope stability/geotechnical analysis.
- 6. Includes a sensitivity study of effects of supporting soil strength on berm stability, with an acceptable margin of error.
- 7. Considers the impact of settlement on berm stability and liner tensions.
- 8. Evaluates the seismic stability of the berm along the critical sections, including consideration of the silt and clay stratum.
- 9. Addresses stability issues and considerations during construction, and addresses the issue of loading schedule on clay (effect of water pressure buildup and dissipation in clay).
- 10. Includes both a total and effective stress analysis that considers the silt and clay stratum.

If you have any questions please contact me at (978) 694-3299.

Sincerely,

John A. Carrigan, Chief

Solid Waste Management Section

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